INSTEON® Wireless Thermostat
Owner Manual (#**2441ZTH**)

INSTEON

About INSTEON Wireless Thermostat

INSTEON Wireless Thermostat is a wireless, battery-operated, one-day programmable, INSTEON-compatible thermostat. INSTEON Wireless Thermostat includes a humidity sensor and the ability to communicate via RF to other INSTEON devices, including INSTEON Thermostat.

INSTEON Wireless Thermostat is not directly wired to the HVAC (Heating Ventilating and Air Conditioning) system. If you want to control the HVAC system with INSTEON Wireless Thermostat, you need to install at least one INSTEON Thermostat, then link INSTEON Wireless Thermostat as a wireless controller of INSTEON Thermostat.

INSTEON Wireless Thermostat may also be used as a standalone INSTEON controller of other INSTEON responders, activating scenes to turn on standalone heaters and fans based on room temperature status.

Expand your INSTEON thermostat system by creating extra temperature zones in your home with additional INSTEON Wireless Thermostats. Simply link each accessory INSTEON Wireless Thermostat to your main INSTEON Thermostat and primary INSTEON Wireless Thermostat.
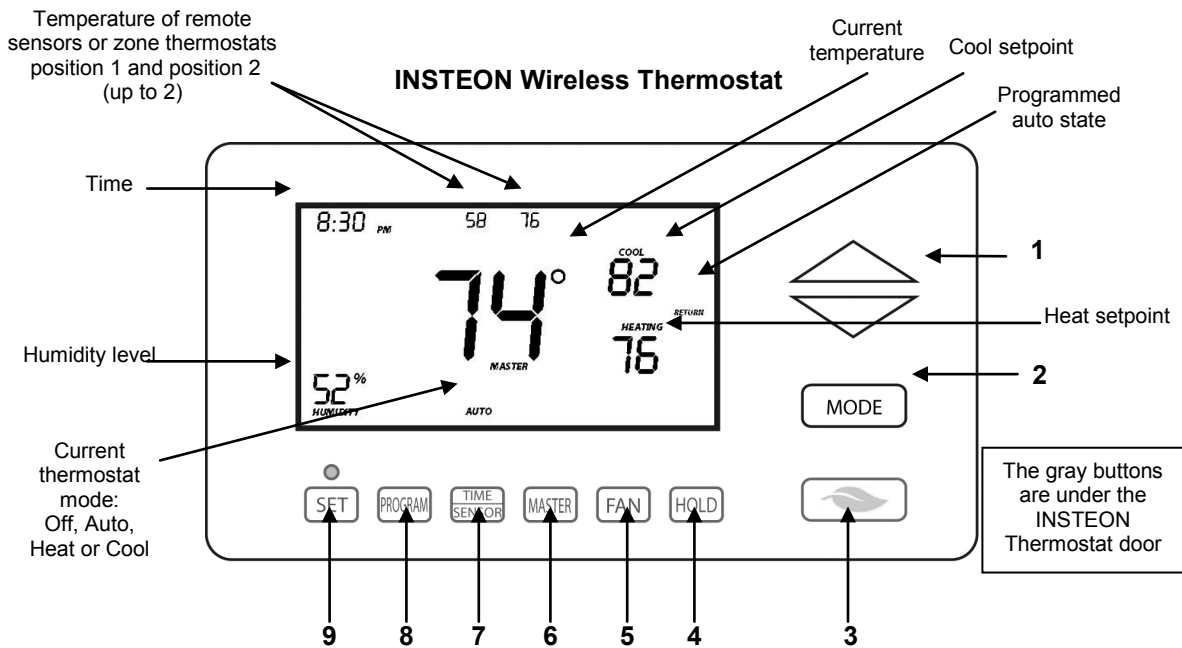
INSTEON Wireless Thermostat – Features and Benefits

- Installs in minutes in included tabletop stand (can also be wall-mounted)
- Can be added to scenes as a controller of INSTEON devices
- Saves energy and money on bills by remotely controlling and automating your thermostat
- Communicates wirelessly over radio frequency (RF)
- Can automatically control INSTEON devices and activate scenes when specified temperatures, humidity levels or A/C or heating modes are detected
- Reports changes in thermostat modes, temperature, humidity, setpoints and fan to compatible automation controllers or software
- Stores setup state in non-volatile memory so settings aren't lost during battery changes or power outages
- Two-year warranty
- Battery features:
  - Goes into battery-saving standby mode one minute after last button press
  - Wakes up every minute to get current local temp info, which remains displayed in standby
  - Low battery warning beeper
  - Broadcasts temperature or humidity changes to other connected devices
- When connected to always-on power supply:
  - Remains awake always rather than going to standby
  - Participates in the INSTEON network as a message hopper
  - Good for hard-to-reach locations where battery changes may be difficult

What's in the Box?

- INSTEON Wireless Thermostat
- Quick Start Guide
- Tabletop stand (removable for wall-mounting)

INSTEON Wireless Thermostat Button Overview

INSTEON Wireless Thermostat

Temperature of remote sensors or zone thermostats position 1 and position 2 (up to 2)

Current temperature

Cool setpoint

Programmed auto state

Time

Humidity level

Current thermostat mode: Off, Auto, Heat or Cool

Heat setpoint

The gray buttons are under the INSTEON Thermostat door

8:30 PM   58   76

74°

COOL
82

HEATING   RETURN
76

MASTER

52%
HUMIDITY   AUTO

1

MODE   2

3

SET PROGRAM TIME SENSOR MASTER FAN HOLD

9   8   7   6   5   4

1) **Up/Down** adjusts the temperature setpoint based on the current mode.

2) **Mode** allows the user to select the current operational mode of the HVAC system. It cycles between Off, Heat, Cool, Auto and Programmed Auto.

3) **Energy** button is a quick option that saves energy (and money). When pressed, it sets back the setpoint by a specified value. The default value is 4° from the current setting. To change the default offset value to be a value other than 4°, you must use software, such as HouseLinc.

4) **Hold** overrides a pre-programmed mode.

5) **Fan** cycles between Auto and Always On – no indication given for "Auto Fan."

6) **Master** makes this device the master temperature controller. Pressing and holding "Master" does not alter any scene or screen settings. It just defines this INSTEON Wireless Thermostat as the master temperature controller.

7) **Time/Sensor** button allows you to set the date and time. It cycles between hour, minute and time format.

8) **Program** button allows you to setup the various pre-programmed user modes.

9) **Set** button adds and removes INSTEON Wireless Thermostat from scenes. It functions like the Set button on other INSTEON devices.
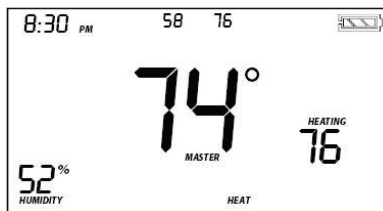
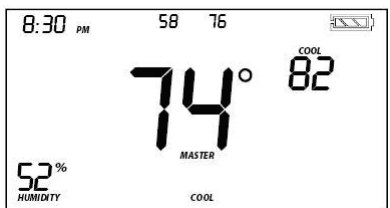# INSTEON Wireless Thermostat Operation and Programming
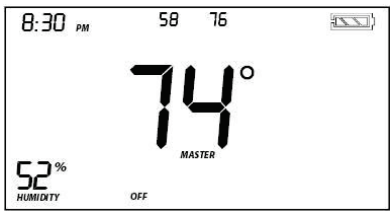
Off Mode:
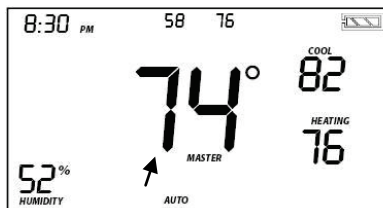- No setpoints are shown
- Up/Down arrows do not do anything

Heat Mode:
- Only Heat setpoint is shown
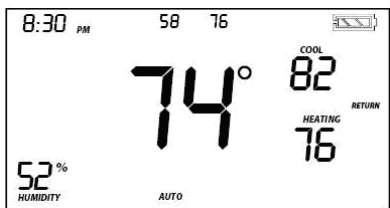- Up/Down arrows change Heat setpoint

Cool Mode:
- Only Cool setpoint is shown
- Up/Down arrows change Cool setpoint

Auto Mode:
- Both Cool and Heat setpoints are shown
- Up/Down arrows increase or decrease values by the same amount

Programmed Auto Mode:
- The program mode is active as indicated by the return annotation
- The time of day annotation is not displayed in the other four modes (Off, Heat, Cool or Auto)
- Both Cool and Heat setpoints are shown
- Up/Down arrows increase or decrease values by the same amount
- When the thermostat moves to the next time period, the setpoints will be adjusted accordingly

Note:
- To adjust the gap between setpoints in Auto mode, press Mode to select Heat and set the temperature you desire. Press Mode again to select Cool and set the temperature you desire. Press Mode a third time to return to Auto; the settings will reflect your changes.
- If you set Heat and Cool to the same temperature, Heat will automatically move down 2° (the minimum allowable gap).

The Energy button (designated with the leaf) is a quick, efficient energy-saving option. When you press the Energy button, INSTEON Wireless Thermostat will adjust the Heat and Cool setpoints by a specified value. The default value is 4° from the current setting, but can be changed via home control software such as HouseLinc.

- When you exit Energy mode, it will revert back the 4° that was changed upon entry.
- The unit remains in Energy mode until the Energy button is pressed again.
- Up/Down arrows adjust the temperature setpoint based on the mode you are in.
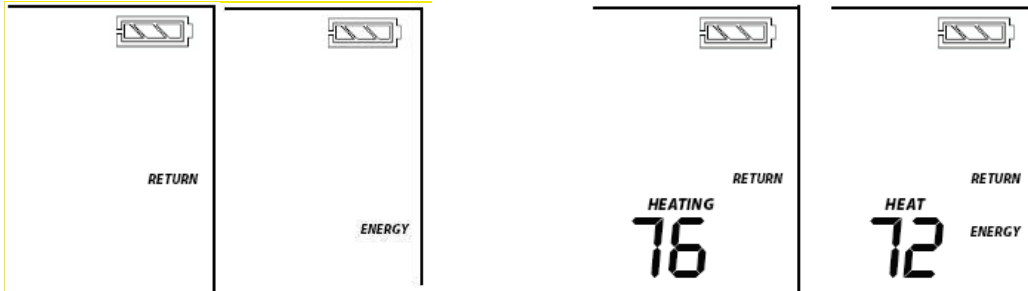
From Off Mode:
- Energy button does nothing because the system is off (at maximum energy savings already)
- When "Energy" appears on the screen for Auto, Cool and Heat Modes, the 4° setback is engaged

From Heat Mode:
- Heat setback as specified
- Default setback is 4° less
- Notice that "Heating" is active on the left, but not on the right since the setpoint is lower that the actual temperature; the element reads "Heat"
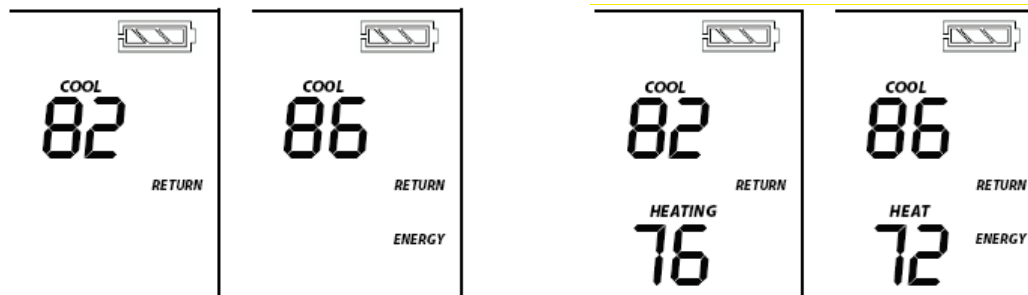
From Cool Mode:
- Cool setback as specified
- Default setback is 4° more

From Auto Mode:
- Both Heat and Cool setpoints changed as specified
- Default setback is 4° more for Cooling and 4° less for Heating
- Notice that "Heating" is active on the left, but not on the right since the setpoint is lower that the actual temperature; the element reads "Heat"

From Programmed Auto Mode:
- Both Heat and Cool setpoints changed as specified
- Default setback is 4°
- Notice that "Heating" is active on the left, but not on the right since the setpoint is lower than the current temperature; the element reads "Heat"

Note: Onscreen text displaying "Heat" changes to "Heating" and "Cool" changes to "Cooling" to indicate HVAC system is active.

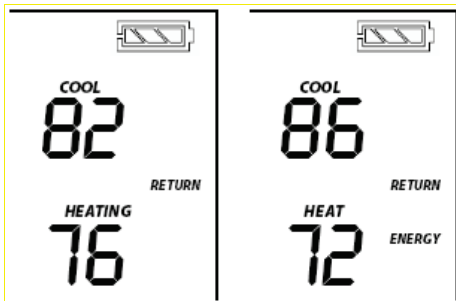## *Set Button Operation*

The Set button adds and removes INSTEON Thermostat from INSTEON scenes. It functions like the Set button on other INSTEON devices.

Time/Sensor Button Operations

- The Time/Sensor button allows the user to set the time and clock format.
- It cycles among hour, minute and 12-/24-hour format. *Note: When added to a Scene with INSTEON Thermostat, INSTEON Wireless Thermostat automatically retrieves time settings.*
- Up/Down arrows cycle through the available options.
- Go to the next Time/Sensor step by pressing Time/Sensor button again.
- Exit Time/Sensor setup by:
    - Letting it time out after 4 minutes.
    - Pressing Mode button

IMPORTANT! Once you have Added INSTEON Wireless Thermostat to a scene in INSTEON Thermostat as a wireless temperature zone, the Time/Sensor button will allow you to change time format but time information will be provided by the INSTEON Thermostat.

Note: Colors indicate element that is presently blinking during setting procedure.

First press of Time/Sensor:
Hours settings
- Up/Down arrows cycle through time in 1-hour increments
- Pressing and holding Up/Down arrows cycles through faster

Note: AM/PM changes automatically as needed.

Second press of Time/Sensor:
Minutes settings
- Up/Down arrows cycle through time in 1-minute increments
- Pressing and holding Up/Down arrows cycles through faster

Third press of Time/Sensor:
Clock Format setting (12- or 24-Hour clock)
- Entire time line blinks
- Up/Down arrows cycle between 12- and 24-hour clock format

Note: AM/PM is not displayed when in 24-hour format.

8:30 PM   20:30

- The Program button allows you to set up the various preprogrammed modes (Wake, Leave, Return and Sleep).
- Go to the next step by pressing Program again.
- Exit Program setup by:
    - Letting it time out after 4 minutes.
    - Pressing Mode button

IMPORTANT! Once you have added INSTEON Wireless Thermostat to a scene in INSTEON Thermostat as a wireless temperature zone, the Program button will no longer function. All program controls will be performed on the INSTEON Thermostat.

Note: Text colors below indicate element that is presently blinking during setting procedure.

First press of Program:
Selects from available pre-program modes
Up/Down arrows cycle through Wake, Leave, Return and Sleep.
NOTE:
- Energy is not a part of this option
- Once a preprogrammed mode is selected, that item remains displayed throughout to indicate the mode you are programming
- The current mode settings are displayed on the thermostat at each setup step

WAKE   LEAVE   RETURN   SLEEP

Second press of Program:
Start Time
- Up/Down arrows cycle through time in 15-minute increments. *Note: when pressing the Down arrow, if you come within 15 minutes of another preprogrammed mode time, you will not be able to increase the time any further.*
- Pressing and holding Up/Down arrows cycles through faster

Note: AM/PM changes automatically as needed.

8 30 PM

Note: The start of one program mode is also the end of the previous program mode.

Third press of Program:
Cool setpoint
- Up/Down arrows cycle through temperature

COOL 82 WAKE

Fourth press of Program:
Heat setpoint
- Up/Down arrows cycle through temperature

WAKE

HEAT 76

Fifth press of Program:
Restarts the process to program another Mode/Day.
NOTE: The four modes come preprogrammed. The defaults are for all days:

Day Modes	Start Time	Thermostat Mode	Heat Setting	Cool Setting
Wake	6:00AM	Auto	65	75
Leave	8:30AM	Auto	60	80
Return	5:00PM	Auto	65	75
Sleep	11:00PM	Auto	60	80

Note: To exit program setup mode, press Mode button once.

Fan and Hold Button Operations

Fan button operations
- The Fan button cycles between Auto and Always On.
- On the display, it simply indicates the text "Fan Always" when selected. There is no text for Auto.

HEATING 76 FAN ALWAYS

Always On

HEATING 76
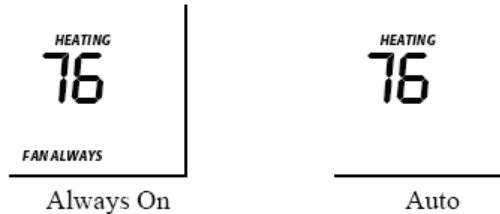
Auto

Hold button operations
- The Hold button overrides a preprogrammed mode until Hold is turned off.

HEATING 76 HOLD

Hold On

HEATING 76

Hold Off

IMPORTANT:

- While Hold is enabled, the next preprogrammed time that comes in Preprogrammed Auto Mode will be ignored.
- While Hold is enabled, the preprogrammed time notations are not shown (i.e. Wake, Leave, Return and Sleep).
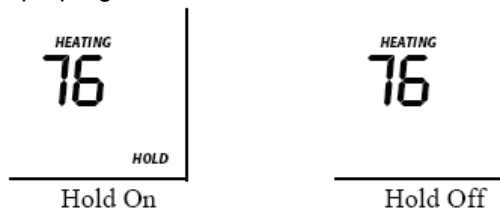- Hold can be remotely enabled/disabled from an INSTEON controller.

Master Button Operation

First press and hold:
Makes the local INSTEON Wireless Thermostat the master temperature controller
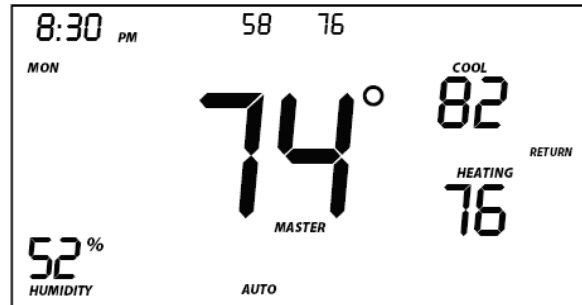
- To perform this, press and hold Master button for 3 seconds.
  - *INSTEON Wireless Thermostat will beep once.*
- Release.

Note: This is only valid if INSTEON Wireless Thermostat is linked to a INSTEON Thermostat.
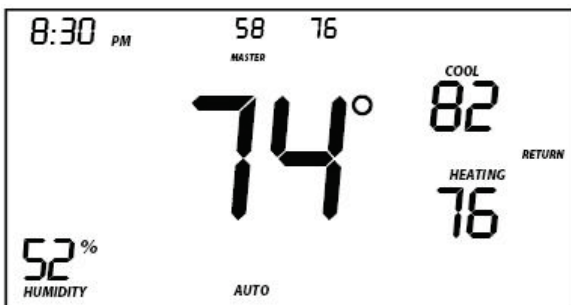
Before pressing Master button:

- Notice that the left remote sensor is currently the Master temperature controller

After pressing and holding Master button:

- Notice that the left remote sensor is no longer the Master temperature controller
- The local INSTEON Wireless Thermostat is now the Master controlling temperature

Note: If no INSTEON scene is programmed to an INSTEON Wireless Thermostat, pressing and holding for 3 seconds will have no function.

Installation

CAUTIONS AND WARNINGS

Read and understand these instructions before installing and retain them for future reference.

Tools Needed

- INSTEON Wireless Thermostat will primarily be used as a tabletop thermostat
- You may also wall-mount INSTEON Wireless Thermostat using the slotted holes in the back cover[1]

Preparation

Follow these steps to properly install INSTEON Wireless Thermostat Thermostat. This thermostat will mainly be used on a tabletop; wall mounting is optional.

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[1] Screws and wall anchors not provided

1) Make sure the location that you have selected for INSTEON Wireless Thermostat will not be affected by daily sun movement or be in direct line of sight of a nearby HVAC vent or fan
2) Insert 2 AA batteries into INSTEON Wireless Thermostat
3) Close the INSTEON Wireless Thermostat cover
   - After a few seconds INSTEON Wireless Thermostat will display ambient temperature and humidity
   - Mode will default to OFF
   - Battery segment should show full with fresh batteries
   - Time will become active and show 12:00PM (default)
4) Snap INSTEON Wireless Thermostat into the supplied tabletop stand or mount safely to a wall

Test Operation

INSTEON Wireless Thermostat does not directly control the HVAC system. Instead, INSTEON Wireless Thermostat communicates via RF to INSTEON Thermostat which is directly in contact to the wiring controlling the HVAC system.

Before adding INSTEON Wireless Thermostat as a responder or controller of INSTEON Thermostat, perform the following tests; these will help familiarize you with INSTEON Wireless Thermostat. Keep in mind you are not yet sending any communication to any INSTEON device. The INSTEON Wireless Thermostat is presently a standalone device.

Note: While testing, the display will change but no HVAC operations will take place.
   INSTEON Wireless Thermostat defaults 5 minutes delay between cycling the AC compressor.

Heating Mode Test
1) Press Mode button once to enter Heat mode
2) Tap the up or down arrow several times until setpoint is 1° above ambient
   INSTEON Wireless Thermostat will call for Heat
   "Heat" segment changes to "Heating"
   No furnace activity will take place at this time, only display changes
3) Tap the Up or Down arrow until you reach a desirable heat temperature setpoint below ambient

Cooling Mode Test
1) Tap Mode button once again to enter Cool mode
2) Tap the Up or Down arrow several times until setpoint is 1° below ambient
   INSTEON Wireless Thermostat will call for Cooling
   "Cool" segment changes to "Cooling"
   No A/C activity will take place at this time, only display changes
3) Tap the Up or Down arrow until you reach a desirable cool temperature setpoint

Auto Mode Test
1) Tap Mode button once to enter Auto mode
   Note that your Heat and Cool setpoints were set in previous steps, unless you did not have a minimum 2° gap between settings
2) Tap Up once to increase both Heat and Cool setpoints by 1°
3) Tap Down once to decrease both Heat and Cool setpoints by 1°
4) Tap Mode once to enter Programmed Auto mode
   Indicated by Auto at bottom and relevant time of day to right of Heat/Cool set temps
5) Tap Mode twice to return to Off mode

Adding INSTEON Wireless Thermostat

INSTEON Wireless Thermostat can be added to INSTEON Thermostat to provide a portable thermostat wherever you want temperature control. You can add up to 2 INSTEON Wireless Thermostats to a INSTEON Thermostat.

1) Press and hold Set button on INSTEON Wireless Thermostat
   INSTEON Wireless Thermostat will beep and Set LED will blink green
2) Press and hold INSTEON Thermostat Set button
   INSTEON Thermostat will beep, then double-beep
   INSTEON Wireless Thermostat will double-beep
   INSTEON Wireless Thermostat will show as Master Temperature Controller
3) Test the scene by pressing and holding the Master button on INSTEON Wireless Thermostat
   - When properly added, pressing the Master button on the INSTEON Thermostat will illuminate the "Master" segment on that same screen. Additionally, the present room temperature of the INSTEON Wireless Thermostat will be displayed in position 1 as the small temperature segments at top center of the display.
   - A visual inspection of each display will reveal the Master status of each INSTEON Thermostat or Zone Thermostat

Note: Only INSTEON Thermostat is directly wired to the HVAC system. If you plan on operating multiple INSTEON Wireless Thermostats you must install at least one INSTEON Thermostat to control the HVAC.

INSTEON Programming

Add INSTEON Wireless Thermostat as a Controller

INSTEON Wireless Thermostat can be set up to control other INSTEON devices or trigger software events when there is a change. The following INSTEON Thermostat changes can be configured as a controller:

- Group 1 - Cooling mode change (scene control)
- Group 2 - Heating mode change (scene control)
- Group 3 - Dehumidification, high humidity setpoint (scene control)
- Group 4 - Humidification, low humidity setpoint (scene control)
- Group FE - Broadcast on any change (notification group for linked software controllers)[1]

NOTE: An INSTEON Wireless Thermostat can also be added to a scene as a controller to Groups 1 - 4. When it is added as a controller of an INSTEON Thermostat, the setpoints between INSTEON Wireless Thermostat and INSTEON Thermostat will always be matched. When it is not added as a controller to a INSTEON Thermostat, the setpoints are local only. INSTEON Wireless Thermostat will send group commands based on local temperature or humidity level and the setpoint shown on the display, regardless of whether it added as a controller to an INSTEON Thermostat.

*Note: Humidity levels are taken from the local device only; they are not shared or matched among thermostats.*

1) Press and hold INSTEON Wireless Thermostat Set button until it beeps.
   INSTEON Thermostat will beep
   INSTEON Thermostat Set LED will blink green
2) Tap Up or Down arrows to select from Groups 1-4 to add to a scene.
   - Group 1 – Cooling mode change (default)
   - Group 2 – Heating mode change
   - Group 3 – Dehumidification, high humidity setpoint
   - Group 4 – Humidification, low humidity setpoint
3) Adjust scene responder (such as OutletLinc with connected humidifier) to the state you want when scene is activated (e.g., 50%, 25% or even off)[2]
4) Press and hold responder Set button until it double-beeps or its LED flashes
   INSTEON Wireless Thermostat will double-beep upon completion

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[1] Group FE is a hexadecimal representation of Group 254 and can only be configured using software
[2] If the responder is a multi-scene device such as a KeypadLinc, tap the scene button you wish to control until its LED is in the desired scene state (on or off)

LED will turn off

5) Confirm scene addition was successful by raising or lowering INSTEON Wireless Thermostat setpoint
   After INSTEON Thermostat changes to active mode set in step 2 above, responder will toggle between the scene on-level and off
6) To add more responders to the scene, repeat steps 1-5 for each additional responder
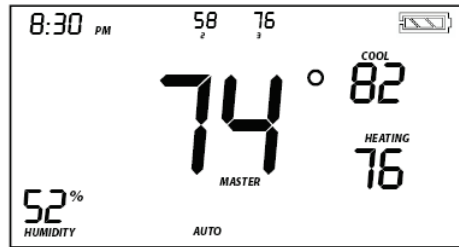
Upon entering Scene mode this screen will display for ~2 seconds
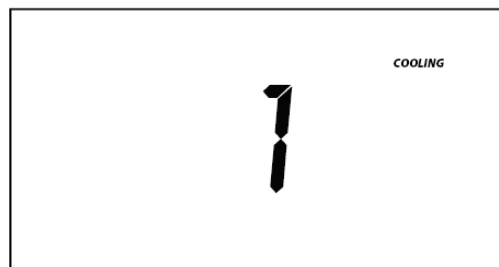
LCD display if Up button is tapped
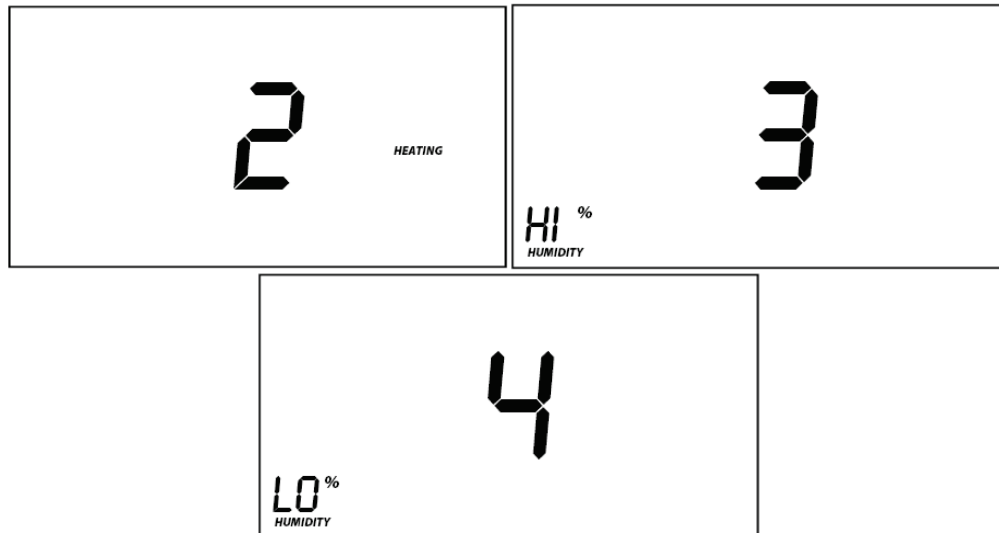
LCD displays when using Up or Down buttons to select from among the 4 controller groups

Remove INSTEON Wireless Thermostat as a Controller

If you want to remove INSTEON Thermostat from a scene as a controller, follow instructions below. Whenever possible, use software for managing scene memberships.

Note: If you choose to remove INSTEON Thermostat from use, it is important that you remove scene memberships from all responders. Follow the instructions below for each responder of which INSTEON Thermostat is a member.

1) Press and hold INSTEON Wireless Thermostat Set button until it beeps
   INSTEON Wireless Thermostat Set LED will blink green
   INSTEON Wireless Thermostat will beep
2) Press and hold INSTEON Wireless Thermostat Set button again to put it in scene mode
   INSTEON Wireless Thermostat Set LED will blink red
   INSTEON Wireless Thermostat will beep
   LCD display indicates the group from which you are removing the scene
3) Tap Up and Down arrows to select appropriate group to remove from:
   - Group 1 - Cooling mode change, default
   - Group 2 - Heating mode change
   - Group 3 - Dehumidifiation, high humidity setpoint
   - Group 4 - Humidification, low humidity setpoint
4) Press and hold responder Set button
   INSTEON Wireless Thermostat will double-beep upon completion
   LED will turn off
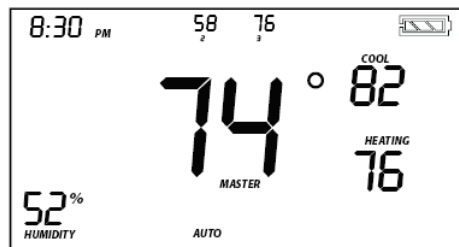
Upon entering Add a Scene mode

Upon entering Remove a Scene mode (defaults to Cooling mode)
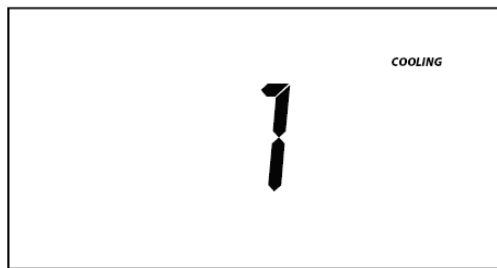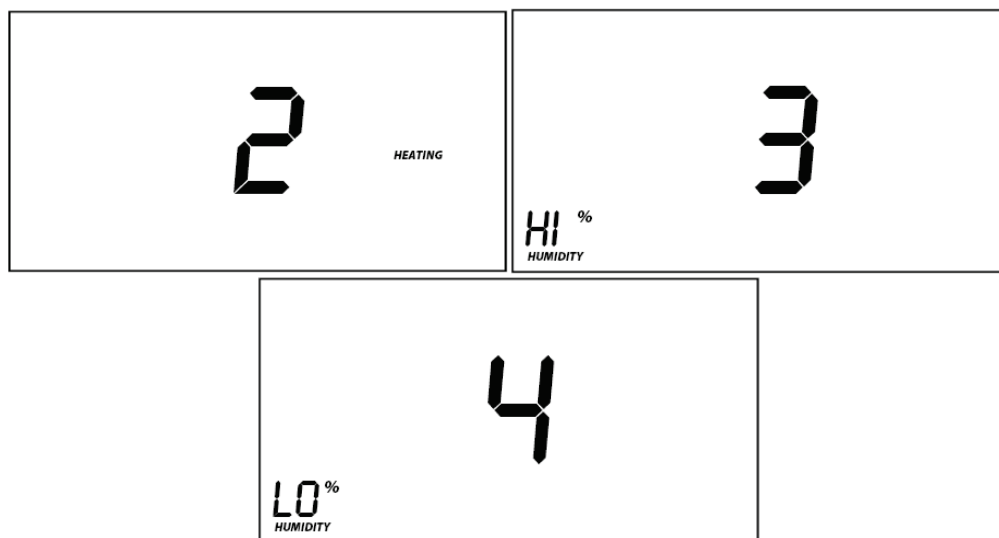

LCD displays when using Up or Down buttons to select from among the 4 controller groups

IMPORTANT! Once you have added INSTEON Wireless Thermostat to INSTEON Thermostat as a wireless temperature zone, the Program and Time/Sensor buttons will no longer perform their initial functions. All program and time controls will be performed on the INSTEON Thermostat. To access the Program and Time/Sensor buttons again, you must remove INSTEON Wireless Thermostat from INSTEON Thermostat.

Program and Time/Sensor buttons can be used to wake INSTEON Wireless Thermostat up from its battery-saving mode to retrieve any updates from INSTEON Thermostat.

Normal Operations

User Setup Mode

Display On Time — 10

Program Button

Time/Sensor Button

Low Humidity Set — 30 — LO%

Mode Button

High Humidity Set — 90 — HI%

Mode Button

Temperature Format — F

Mode Button

External Temperature — OF

Mode Button

Beep on Button Press — OF

Mode Button

Button Lock — OF

Mode Button

Programming Lockout — OF

Mode Button

Activation Delay — 5

Mode Button

Temp/Humidity Cal Modes

Program Button

78 — I — Internal Temperature Calibration

Mode Button

31% — Humidity Calibration

Mode Button

68 — E — External Temperature Calibration

Mode Button

Press and hold Program button for 3 seconds or more to enter User Setup Mode:

1) Press and hold Program button to access the following options:
   - Press Mode to step between menu items (sub-mode number will appear on top of the screen).
     - Sub-mode 01: Display LED on-time select (default is 10 seconds)
     - Sub-mode 02: Humidity low setpoint (default is 30%)
     - Sub-mode 03: Humidity high setpoint (default is 99%)
     - Sub-mode 04: Temperature format select (default is Fahrenheit)
     - Sub-mode 05: Internal or External temperature sensor (default is Internal)
     - Sub-mode 06: Beep on button press (default is Off)
     - Sub-mode 07: Button lock (default is Off)
     - Sub-mode 08: Programming lock (default is Off)
     - Sub-mode 09: Activation delay (default is 5 minutes)

2) Press the Up or Down arrow to change a setting
   - Sub-mode 01: LED backlight ON time (10–second default)
     - a. Tap up or Down arrow to step between OFF, 10 seconds, 60 seconds and ON
       Note: Do not set to ON unless you are connected to a power supply or the batteries will drain very rapidly.
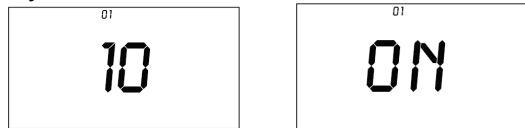
   - Sub-mode 02: Humidity low setpoint (humidification, 30% default)
     - a. Up arrow = Increase humidity % setpoint
     - b. Down arrow = Decrease humidity % setpoint
     - c. Range = 0 to 79%

   - Sub-mode 03: Humidity high setpoint (dehumidification, 90% default)
     - a. Up arrow = Increase humidity % setpoint
     - b. Down arrow = Decrease humidity % setpoint
     - c. Range = 20 to 99%
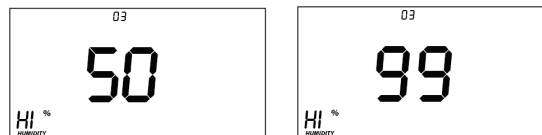
   - Sub- mode 04: Temperature format select (C or F, F default)
     - a. Up arrow = C
     - b. Down arrow = F
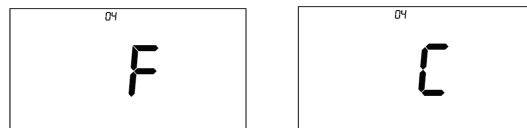
   - Sub-mode 05: Internal or External temperature sensor (Internal default)
     - a. Up arrow = External
     - b. Down arrow = Internal

   - Sub-mode 06: Beep on button press (enable/disable, OFF default)
     - a. Up arrow = ON

b. Down arrow = OFF

3) When finished, press and hold Program button to exit

Temperature and Humidity Calibration Modes

Note: Use a calibrated temperature or humidity source when adjusting INSTEON Thermostat.
1) Press and hold the Program button
2) Tap Time/Sensor to enter Temperature Calibration Mode
3) Tap Mode to step among internal temperature calibration (**I**), humidity calibration and external temperature calibration modes (**E**)
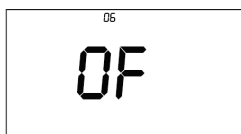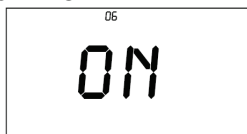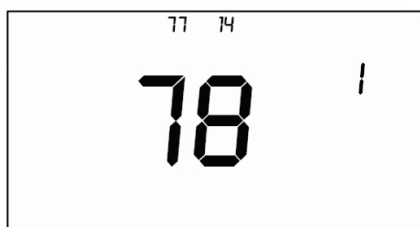
Internal Temperature Calibration
- **I** appears on right side of screen
- The top left number (77 in example) is the current reading according to the temperature sensor
- The top right number (14 in example) is the current offset (represents 1.4)
- These numbers can change while this screen is displayed even though the primary temperature does not change; they are floating point calculations.
1) Tap Up or Down arrows to adjust the displayed temperature to match the calibrated source
   i. Each press results in a 1° F (0.5° C) change
   ii. The calculation using example numbers below is 78 = 77 + 1.4
   iii. The offset range is from –10 to +10 actual °s

Humidity Calibration Mode
1) Once in Setup Mode for temperature calibration (step 1 above), tap Mode button to step between temperature calibration and humidity calibration
2) Press the Up or Down arrow to select the current humidity level
   - The top left number (40 in example) is the current reading according to the humidity sensor
   - The top right number (-92 in example) is the current offset (represents -9.2)
   - These numbers can change while this screen is displayed even though the primary humidity level does not change. they are floating point calculations
     o Each press results in a 1% humidity change
     o The calculation using example numbers below is (31 = 40 – 9.2) and 42 = 40 + 1.7
     o The offset is from -10 to +10
3) Press the MODE button to calibrate the external temperature sensor or press Program to exit calibration mode

```
                    40  -92                           40    17



    52%                                       52%
    HUMIDITY                                  HUMIDITY
```
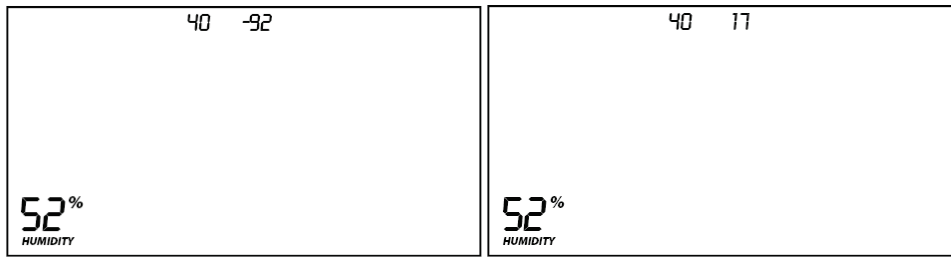
External Temperature Calibration
- **E** appears on right side of screen
- If you are using a Waterproof Temperature Sensor, use this mode to calibrate its external temperature readings
1) Tap Up or Down arrows to adjust the displayed temperature to match the calibrated source
    i. Each press results in a 1° F (0.5° C) change
    ii. The calculation using example numbers below is 78 = 77 + 1.4
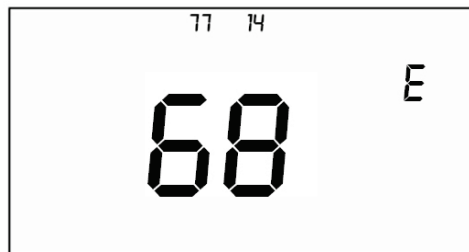   iii. The offset range is from –10 to +10 actual °s

```
                77   14


                68           E

```

2) Press Program to exit calibration mode

Advanced 2-Stage Heating or Cooling Systems

INSTEON Wireless Thermostat does not have the ability to operate first or second stages of Heat or Cool directly but can instruct INSTEON Thermostat to operate the HVAC. First and second stage of Heat or Cool engages under the following conditions when INSTEON Thermostat is connected to the HVAC:

- INSTEON Thermostat setpoint is set at 5° or more below ambient in Cool mode and 5° or more above ambient in Heat mode
    - Heat mode setpoint is 80°, ambient is 72° = first and second stage engaged
    - Cool mode setpoint is 78°, ambient is 84° = first and second stage engaged

- INSTEON Thermostat has been active in Heat or Cool for longer than 10 minutes and did not reach setpoint
    - Heat mode ran for 10 minutes and did not reach setpoint = second stage engaged
    - Cool mode ran for 10 minutes and did not reach setpoint = second stage engaged

Note: It is possible for INSTEON Thermostat to occasionally engage and disengage second stage during a single heating or cooling cycle as variables are met.

Factory Reset

If you want to reset INSTEON Thermostat to its factory default settings, follow instructions below.

Note: If you choose to reset INSTEON Thermostat to its factory default settings, it is important that you remove scene memberships from all controllers. Otherwise, controllers will retry commands repetitively,

creating network delays. Follow the instructions in Removing INSTEON Thermostat as an INSTEON Responder *above for each scene controller of which INSTEON Thermostat is a member.*

Factory reset changes:
- INSTEON is reset (all scene memberships are removed)
- Day/time is changed to 12:00PM
- Programming times, temperatures and other settings are reset to their default values

Factory reset does not change:
- Temperature offset
- Humidity offset

Factory Reset
1) Open INSTEON Wireless Thermostat and remove a battery
2) Wait 10 seconds
3) While pressing and holding the Set button, reinsert the removed battery. Do not let go of Set button.
   Device will blink all segments and emit a long beep for about 10 seconds
4) When blinking/beeping stops, release Set button
   Device goes into factory reset for ~10 seconds and will perform a series of self tests
   Device will return to normal operations and display screen returns to normal
5) If INSTEON Wireless Thermostat displays a two-digit error code instead of the ambient temperature, remove batteries, wait a few seconds, then reinstall
   If problem persists, call INSTEON Support Line at 800-762-7845

Factory Reset Option 2
1) Press and hold INSTEON Wireless Thermostat Set button until it beeps
   INSTEON Wireless Thermostat will beep
   INSTEON Wireless Thermostat Set LED will blink green
2) Press and hold INSTEON Wireless Thermostat Set button again until it beeps
   INSTEON Wireless Thermostat will beep
   INSTEON Wireless Thermostat Set LED will blink red
   LCD display indicates the group you are removing a scene from (default is Cooling)
3) Double-tap Set button
4) Press and hold Set button again. Do not let go of Set button.
   Device will blink all segments and emit a long beep
5) When blinking/beeping stops, release Set button
   Device goes into factory reset for about 10 seconds and will perform a series of self tests
   Device will return to normal operations and display screen returns to normal
6) If INSTEON Wireless Thermostat displays a two-digit error code instead of the ambient temperature, remove batteries, wait a few seconds, then reinstall
   If problem persists, call INSTEON Support Line at 800-762-7845

Specifications

General	
Product name	INSTEON Wireless Thermostat
Brand/manufacturer	INSTEON
Manufacturer product number	2441ZTH US 2732-432 EU

	2732-532 AUS/NZ
UPC	813922010800
Warranty	2 years, limited

INSTEON		
INSTEON powerline mesh repeater	No	
INSTEON RF mesh repeater	No	
INSTEON controller	Yes	
INSTEON responder	No	
Maximum links/scenes	400	
LED	Dual-color, blinks red or green during setup	
LED brightness	N/A	
Local control	Yes	
Commands supported as controller	On	Off
Commands supported as responder	N/A	
Software configurable	Yes	
RF range	Up to 50 meters open air	
Phase bridge detect beacon	No, RF-only device	
INSTEON device category	0x05 (all frequencies)	
INSTEON device subcategory	2441ZTH (915 MHz)	0x0A
	2732-432 (869 MHz)	0x11
	2732-532 (921 MHz)	0x12

X10	
X10 address	N/A
X10 transmitter	N/A
X10 receiver	N/A
X10 status response	N/A
X10 resume dim	N/A
X10 minimum transmit level	N/A
X10 minimum receive level	N/A
X10 messages repeated	N/A

Mechanical	
Mounting	Tabletop stand or wall-mount
Wires	N/A
Screw clamp connections	Yes, 4 position
Case color	White
Set button	1
Plastic	UV stabilized ABS
Beeper	Yes

INSTEON

Beep on button press	Optional (off by default)
LED	1 red/green dual-color
Dimensions	3.4" H x 5.7" W x 3" D
Weight	0.55 lbs (8.8 oz)
Operating environment	Indoors
Operating temperature range	4 $^\circ$ to 40 $^\circ$ C (39 $^\circ$ to 104 $^\circ$ F)
Operating humidity range	0-90% relative humidity
Storage temperature range	-20 $^\circ$ to 70 $^\circ$ C (-4 $^\circ$ to 158 $^\circ$ F)
Electrical	
Voltage	5 VDC
Frequency	N/A
Load type(s)	N/A
Maximum load	N/A
Minimum load	N/A
User replaceable fuse	No
Hardwired remote control	N/A
Retains all settings without power	Yes, saved in non-volatile EEPROM
Standby power consumption	22 micro-Amps
Certifications	FCC, IC Canada, EN International
FCC ID	SBP2441ZT
Safety approval(s)	N/A, low voltage device

Troubleshooting

Problem	Possible cause	Solution
After powering up or a factory reset, INSTEON Wireless Thermostat displays a two-digit error code instead of the ambient temperature.	It didn't boot up fully.	Remove batteries from INSTEON Wireless Thermostat, wait a few seconds, then reinstall. If problem persists, call the INSTEON Support Line.
I replaced my INSTEON Wireless Thermostat with a new one, but now SmartLinc and INSTEON app don't recognize it.	SmartLinc and the INSTEON app communicate vian INSTEON I.D.s. They are still trying to communicate to the old thermostat I.D.	Update the INSTEON I.D. on both SmartLinc and the INSTEON app with your new thermostat I.D.
My INSTEON Wireless	INSTEON Wireless Thermostat	

INSTE☾N®

| Thermostat temperature reading is taking a long time to update on my INSTEON Thermostat display. | readings may take up to 15 minutes to appear on INSTEON Thermostat display. | |
| INSTEON Wireless Thermostat's battery life seems very short. | Battery life depends on individual settings (such as LED backlight display on-time, notifying software of all changes, etc.). | Change INSTEON Wireless Thermostat settings to reduce battery consumption.

Use an AC adapter (sold separately) to power INSTEON Wireless Thermostat. |

Certification and Warranty

FCC and Industry Canada Compliance Statement

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS-210. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorise aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radiolectrique subi, mme si le brouillage est susceptible d'en compromettre le fonctionnement.

The digital circuitry of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:
- Re-orient or relocate the receiving antenna of the device experiencing the interference
- Increase the distance between this device and the receiver
- Connect the device to an AC outlet on a circuit different from the one that supplies power to the receiver
- Consult the dealer or an experienced radio/TV technician

WARNING: Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

Limited Warranty

Seller warrants to the original consumer purchaser of this product that, for a period of two years from the date of purchase, this product will be free from defects in material and workmanship and will perform in substantial conformity to the description of the product in this Owner Manual. This warranty shall not apply to defects or errors caused by misuse or neglect. If the product is found to be defective in material or workmanship, or if the product does not perform as warranted above during the warranty period, Seller will either repair it, replace it, or refund the purchase price, at its option, upon receipt of the product at the address below, postage prepaid, with proof of the date of purchase and an explanation of the defect or error. The repair, replacement, or refund that is provided for above shall be the full extent of Seller liability with respect to this product. For repair or replacement during the warranty period, call the INSTEON Support Line at 800-762-7845 with the Model # and Revision # of the device to receive an RMA# and send the product, along with all other required materials to:

INSTEON
ATTN: Receiving
16542 Millikan Ave.
Irvine, CA 92606-5027

Limitations

The above warranty is in lieu of and Seller disclaims all other warranties, whether oral or written, express or implied, including any warranty or merchantability or fitness for a particular purpose. Any implied warranty, including any warranty of merchantability or fitness for a particular purpose, which may not be disclaimed or supplanted as provided above shall be limited to the two-year of the express warranty above. No other representation or claim of any nature by any person shall be binding upon Seller or modify the terms of the above warranty and disclaimer.

Home automation devices have the risk of failure to operate, incorrect operation, or electrical or mechanical tampering. For optimal use, manually verify the device state. Any home automation device should be viewed as a convenience, but not as a sole method for controlling your home.

In no event shall Seller be liable for special, incidental, consequential, or other damages resulting from possession or use of this device, including without limitation damage to property and, to the extent permitted by law, personal injury, even if Seller knew or should have known of the possibility of such damages. Some states do not allow limitations on how long an implied warranty lasts and/or the exclusion or limitation of damages, in which case the above limitations and/or exclusions may not apply to you. You may also have other legal rights that may vary from state to state.

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